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Abstract: The chapter charts the rise of behaviorism and experimentalism in economics, and the specific way in which the behavioral and experimental apparatus is being translated into the marketization of poor smallholders in the rural Global South. We argue that this shift is connected to the reformulated ideal of an "imperfect" economic subject. Speculating tentatively about a corresponding assemblage of a rearticulated "roll-in neoliberalism", we discuss the contradictions in a policy script that sets out to engineer seemingly "passive" subjects and point to parallels with similar policies that are targeted at "undesired" behavior in the Global North.

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Economics, experiments, evidence: Poor behavior and the development of market subjects

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In his discussion of Ulrich Beck's second modernity thesis Bruno Latour summarized his understanding of "being modern" as a clever sleight of hand: It was only because they took themselves as being disentangled from the uncertainties of nature, the chains of history, or the obstinacy of society that humans were able to entangle themselves with "everything on earth and beyond", allowing "them to do the exact opposite of what they were saying" (Latour 2003, 38). Few academic disciplines have internalized this sleight of hand more successfully than what emerged as "mainstream" economics during the 20th century. Often labeled all too easily as "neoclassical", an adaptable economic mainstream took shape at the crossroads of various overlapping schools of thought – mainly neoclassical thinking in the narrow sense as it emerged in the second half of the 19th century and Austrian economics. Important differences notwithstanding, what unified the economic mainstream has been a belief in marginalism, methodological individualism, opportunity costs and the virtuous effect of market exchange (conceived variably as the neoclassical "rocking horse" moving towards equilibrium or the Austrian processor of knowledge under conditions of uncertainty; see Aspromourgos 2008). Thus defined, a seemingly perfect economic world assumes its form against an unruly outside, variably constructed as deviating, inferior and in need of help. The representation of the outside as imperfect then legitimated the aggressive expansion of the "economic" into "non-economic" spheres. It has become increasingly difficult, however, to maintain the appearance of this perfect economic order. Recent upheavals within the discipline in the wake of the current financial crisis made it obvious for a wider audience that the economic mainstream had once again readjusted its meandering course. Standard economic theory has embraced behavioral and experimental economics, seeking answers to the uncertainties of an era marred with unruly natures, endless controversies about "scientific" facts, or insecure and fleeting subjectivities.

Our chapter starts from the dual observation that we have been witnessing, first, the emergence of a new behavioral and experimental mainstream in economics, and a more recent application of this body of thought to a wide range of policy fields both in the global north and the global south. Our aim is to critically engage with this "policy transfer", using the example of development as an illustrative case-study. There is no better way to support our argument than to draw attention to the recent World Development Report (WDR) 2015. Published under the title "Mind, society and behavior", the 2015 WDR marks a radical break in development policy delivery. First and foremost, this has to do with a profound loss of faith in the self-regulating market. Markets have turned out to be feeble and fragile creatures, constantly in need of attention. Never simply existing as a natural fact, they have to be produced and performed practically. However, since markets continue to be the preferred forms of economic coordination, this translates into a dual developmental task with a view to the global south: Development occurs through the development of markets. Let us briefly clarify how we approach "neoliberalism". We do not regard it as a "big Leviathan" against which everything else is measured and which appears to be the ultimate cause for all sorts of processes (Collier 2012, 186). At the same time, it is also not an amorphous chameleon capable of assuming almost any form. Rather, we conceptualize the phenomenon as a specified set of elements that are always entangled with other things that are not reducible to neoliberalism (see Ferguson 2010; Larner and Walters 2004; Peck 2010; Sheppard and Leitner 2010).

Yet this does not mean that there is no common understanding of the core notions. We conceptualize this neoliberal common sense as a political philosophy that (1) is itself multifaceted internally; (2) cannot be reduced to "economics" more generally and certainly not to "neoclassical economics"; and (3) is subject to constant historical and geographical variation (Mirowski 2009; Peck 2010). It is also possible to identify general trends in the ongoing mu-

tations of the neoliberal project. After its limitations became increasingly obvious, market fundamentalism gave way to a more pragmatic third way politics, soft paternalism (see below), social and human capital approaches and so on. What all these transformations have in common is a more progressive appearance: social policies are demanding but also compassionate, private enterprises are suddenly sensitive towards various registers of social and "cultural" difference. A key moment of this shift is linked to the emergence of a new behavioral and experimental mainstream in the discipline of economics and the subsequent translation of this body of thought into the policy realm.

The research presented in this chapter is inspired by two sets of literatures. The first concerns a body of scholarly thought that might be loosely termed "social studies of economization" (Caliskan and Callon 2010). Rather than asking what economy and economic behavior is, research in this tradition focuses on markets and other economic "entities" as socio-technical *agencements*, that is, arrangements of people, things and socio-technical devices that format products, prices, competition, places of exchange and mechanisms of control. The focus is not on economic entities as something pre-given but rather on economization, that is, the processes that see to it that actions, devices and representations are assembled and qualified as "economic" (Caliskan and Callon 2010, 2). A second source of inspiration derives from political economy, more precisely from the emerging geographical scholarship that acknowledges the multi-faceted nature of global capitalism, and focuses on economic processes "in all their hybrid, variegated, and heterogeneous forms" (Peck 2012: 122; see also Christophers 2014).
In recent years we have worked to bring both sets of literature in dialogue with each other. Labeled "geographies of marketization" our emphasis is on the market as the ideal site of rational decision-making and on political attempts to align our socio-spatial realities with this utopian idea. Concrete markets are conceptualized as the result of specific constellations of

"economists" widely defined, and market devices and settings, that is, calculative tools, scripts and procedures through which markets are given form (Berndt and Boeckler 2012; Boeckler and Berndt 2013).

The remainder of the text is organized as follows. In the first section we chart the rise of behaviorism and experimentalism in economics, and the specific way in which the behavioral and experimental apparatus is being translated into the marketization of poor smallholders in the rural global south. Our argument is that development interventions have three key characteristics: (1) a radical *neo-individualism* entailing a shift from imperfect markets to individual behavioral failure as sites of intervention, (2) the oxymoronic framing of policies as some kind of *soft paternalism*, that is, as a third way avoiding the shortcomings of both the interventionist state and the self-regulated market, and (3) the development of a wide-ranging apparatus of devices that frame the settings in which economic behaviorism assumes concrete form. Section 2 then takes this discussion further, engaging with the argument that economic behaviorism and experimentalism present a serious challenge to mainstream economics. We refute this claim, arguing instead that the productive shift of the terrain of policy interventions is connected to the reformulated ideal of an "imperfect" economic subject. We speculate tentatively about a corresponding assemblage of a rearticulated "roll-in neoliberalism" and we additionally point to the contradictions in a policy script that sets out to engineer seemingly "passive" subjects. Despite having our focus on anti-poverty policy in the global south and being aware of the particularities of our case, we see parallels with developments in the global north, above all when policies are targeted at "undesired" behavior and at subjects stereotypically labeled to be "at risk" as is the case, for instance, with social impact investment or climate change mitigation (see also Berndt 2015).[1]

A BEHAVIORAL AND EXPERIMENTAL MAINSTREAM? THE EXAMPLE OF DEVELOPMENT

When behaviorism started to become influential in the social sciences more generally during the 1950s and 1960s, it did not leave economics untouched. Attempts to move away from narrow definitions of economic behavior met resistance by the custodians of more abstract mathematical modeling and opponents to realism in economics. It was only when it came into contact with advances in cognitive psychology that economic behaviorism received a new breath of life. In the early 1970s psychologists Daniel Kahneman and Amos Tversky co-authored a number of articles that criticized the rational-agent model (e.g. Tversky and Kahneman 1974). These insights caught the interest of the economist Richard Thaler. Subsequent joint research between Kahneman, Thaler and others then established behavioral economics as a discipline finally taken seriously by economists. There is no better proof for this assessment than the award in 2002 of the Nobel Prize in Economics to Kahneman.

The insights from Kahneman, Tversky, Thaler and others would be unproblematic for standard economic theory as long as these deviations were small and idiosyncratic, that is, if there was reason to assume that they would on average cancel themselves out. The problem, however, is the universalist claim that there are *systematic* biases built into people's choices which prevent utility maximization. At a time of mounting skepticism about the political applicability of mainstream economic thinking behaviorism was quickly able to fill the void. A particularly interesting case is the realm of development. Here the argument is that the world's poor are poor because they tend to make the wrong decisions. Flexibly formulated policy interventions will help the poor to make the right choices and hence make poverty history. The rationale is neatly expressed in the following quote: "Behavioral economics reveals that (…) poor people make mistakes that end up making them poorer, sicker, and less happy. (...) Iden-

tifying and correcting these mistakes is a prerequisite for solving global poverty" (Karlan and Appel 2011, 20).

It would be a mistake to underestimate the significance of arguments like these. The 2015 WDR is a case in point. The point of departure is behavioral economics and the distinction between two systems of thinking (dual process theory). The argument is that judgments can ideally be produced in two ways. System 1 is automatic and unconscious. System 2 is rule-based, rational and explicit. It "monitors" system 1 and is able to rationalize ideas and feelings that were generated by system 1. It is also able to correct or replace erroneous intuitive judgments. However, this does not happen all the time. Since system 2 has its limits, system 1 often prevails, leading to large and systematic mistakes (Kahneman 2002, 451). By rendering poverty a behavioral issue, interventions are legitimized that target human choice and behavior at the individual level, turning "highly cost-effective behavioral interventions" (World Bank 2015: 13) into the new gold standard for development policies. In what follows, we turn to three wider tendencies that in our view demand more careful scholarly attention.

Neo-individualism

The starting point in the "markets in development" literature is the acknowledgement that markets are critical for poverty reduction, but "particular[ly] fail the poor" and "in the specific context of poor rural areas ... may be too thin" (Department for International Development 2005, 2). In trying to explain why markets are not working as they should do key documents regularly draw a line between the individual person and his/her environment, and acknowledge "internal" and "external" obstacles to more entrepreneurial and productive behavior. At the end of the day it is argued that the main reason for market failure is the poor themselves. Rather than solely being interested in improving institutions to solve "problems

between people", the emerging behavioral approach to poverty therefore emphasizes "problems within individuals" (Mullainathan 2005, 67; emphasis removed from original).

Attention turns to the individual and the key challenge is to align individual behavior with the assumptions of how society at large is best organized. This is a far cry from atomistic individualism as the key methodological concept allowing mainstream economics to model macro-level phenomena. Against the neoclassical argument that "the poor" have nothing special about them and behave just as rationally as other people do behaviorists argue that poverty poses constraints on economic decision-making that result in inefficient outcomes (Mani et al. 2013). While agreeing that this holds for the poor more generally, the protagonists of the behavioral and experimental turn in development economics are at pains to argue that the incorporation of cognitive psychology should not be confused with "pejorative attempts to label the poor as "irrational" (...) to blame the poor for their poverty [or] to argue that the poor have specific irrationalities" (Mullainathan 2005, 47). This notwithstanding, there is a tendency in the policy literature to do precisely this, and to mobilize classical cultural stereotypes and tropes of modernization when turning to the external environment. The 2015 World Development Report concept note, for instance, refers to "mental models rooted in particular cultures" (World Bank, 2014). And according to Anderson and Stamoulis (2006, 17) it is a lack of exposure to the discipline of the market that sees to it that "behavioural anomalies may be even less anomalous (i.e. they may be much closer to the norm) than observed in the USA and Europe".

According to the policy documents analyzed, behavioral anomalies such as hyperbolic discounting, procrastination or loss aversion prevent people from taking risks and trap the poor in traditional life-styles. In doing so, representations take up long-standing imaginations that inform classical approaches towards economic development: On the one side are "the poor",

reduced to “local” and “traditional” knowledge, populating a world characterized by small-scale agriculture. On the other side we have “the non-poor”, involved in large-scale production using sophisticated farming methods (Ferrand, Gibson, and Scott 2004, 10). Such dualist representations are particularly strong the closer one gets to the implementation stage. In representations like these “the non-poor” play the role of a benchmark against which “the poor” are judged. There are direct connections with dual process theory. On the one hand are ideal type “econs”, fully rational and modeled after the famous homo economicus. On the other side are imperfect “humans” (Kahneman 2011, 413; Thaler and Sunstein 2008, 7). The poor “human” lives mainly in system 1, the cognitive world that is automatic and unconscious. Decisions of the non-poor “econ” are checked by rational and explicit system 2. It is impossible in this logic to force people to behave against their (imperfect) nature. This provides a crucial step in the discourse. In a situation in which it appears to be economically efficient for the rural poor to adopt a more entrepreneurial strategy, but in which there are systematic cognitive biases that prevent them from doing so, there is a need for incentives to change behavior “voluntarily”.

Soft paternalism

Protagonists of the behavioral turn in development distance themselves both from radical market-oriented policies as well as from traditional development aid and large-scale state interventions. Operating mainly along system 2, the state is represented as being incapable of reaching people when they operate only in the world of heuristics and rules of thumb. The market, on the other hand, may in principle be the ideal institutional arena, but cannot be trusted to realize itself all on its own in the light of the behavioral anomalies besetting the poor. It is against this scenario that the apparently less ambitious, micro-level and small-scale behavioral approach is legitimized (Banerjee and Duflo 2011, 3, 9). With asymmetric pater-

nalism an institutional frame is suggested that is capable of intervening politically with as much state as necessary and as much free market as possible. Asymmetric paternalist policies help those who are less sophisticated cognitively "while imposing little or no harm on those who are fully rational" (Camerer et al. 2003, 1212). Richard Thaler and Cass Sunstein took up this idea in their 2008 bestselling book "Nudge: Improving Decisions about Health, Wealth and Happiness", choosing to flag the contradictory notion with the oxymoron "libertarian paternalism" (Thaler and Sunstein 2008, 249).

"Soft paternalist" interventions turn into means to change behavior, being capable of curing the behavioral defects that are ultimately made responsible for poverty and underdevelopment. They do this with a double promise that renders the script so attractive in policy circles: On the one hand, these interventions do not cost much at times of fiscal austerity and reduced public development budgets (see World Bank 2015, 20). On the other hand, there is reassurance for market purists: Given that human behavior is adaptive, market rationality can be practiced, or – in the words of a key document – "market players can 'learn' more efficient behavior" (Swiss Agency for Development and Cooperation 2008, 8). In this final twist of the argument, the market is capable of healing behavioral deficiencies by disentangling the rural poor from the bonds of traditional cultural and social conditions and by enabling them to take the initiative into their own hands (Anderson and Stamoulis 2006, 24). It should be added that for those subject to these interventions there is often little softness in the paternalism prescribed. We are often confronted with only thinly veiled pretensions to engage in outright "breaking" of inefficient habits (OECD 2012, 45). In this context, economists Gary E. Bolton and Axel Ockenfels (2012, 666) coined the telling term "behavioral economic engineering" as a label for "the science of designing real-world institutions and mechanisms that align individual incentives and behavior with the underlying goals".

Distributed agency and market devices

The development economists "in the wild" know that much more is needed for successful behavioral change than the formulation of "smart" policy scripts. This points to the material side of the behavioral turn in development and the need for various devices that do the framing work necessary for behavioral engineering to be successful. By way of simplification, it is possible to distinguish two closely intertwined classes of these devices. The first concerns so-called nudges and prompts designed to align individual behavior with the laboratory conditions of neo-individualism. Nudging is about the construction and management of incentive structures "that significantly [alter] the behavior of Humans, even though it would be ignored by Econs" (Thaler and Sunstein 2008, 9). Pointing to their simplicity and their low costs, the 2015 WDR lauds their particular applicability to questions of development (World Bank 2015, 120). Nudges can take on concrete form as cell-phone text-message reminders, visits by NGO representatives that remind farmers to do certain things, or the charging of small fees for services. They can be delivered in the form of pay for performance schemes or by making undesired behavior visible (Duflo, Hanna, and Rya 2012). Another example is the supply of critical market or production data in a way that smallholders are almost forced to calculate and to entertain the idea of whether to take more risks.

Second, the gradual translation of behavioral economic thinking into a prescriptive toolbox for policy interventions has a lot to do with experimental methods.[2] The demand that interventions necessarily have to be adaptive themselves lends itself to reflexive monitoring in what the WDR refers to as "ongoing experimentation" (World Bank 2015, 20). While these demands are attentive to a broad range of different research methods, interventions ultimately have to be based on hard facts about what works and what does not, or in the deceptively

simple words of Abhijit Banerjee and Esther Duflo (2011, 4): “We need evidence”. A crucial innovation enabling the spread of behavioral thinking into the policy realm has been the development of the randomized field experiment (for a discussion, see Webber 2015). Subjects are assigned randomly to either control or experimental group, under the assumption that variations with regard to unidentified factors will be distributed evenly across the groups. Although the underlying principle is the classical economic notion of *ceteris paribus*, randomization travelled into economics from the medical world, where the so-called randomized controlled trial (RCT) has long been an established procedure in the context of clinical investigation. All this has profound political implications. This crucially concerns the discipline of hard evidence that connects the method with the wider trend towards impact evaluation and evidence-based policy delivery. Only experimental methods, so the argument goes, are capable of establishing “causal links between interventions and outcomes”. And without those methods “it is impossible to determine convincingly if a development intervention ‘works’ or not” (Fiszbein 2006, 386).

A good example for the way behavioral and experimental knowledge collide in producing new realities are a number of experiments conducted by researchers around development economist Ester Duflo, aiming to better understand why farmers in Kenya do not invest in fertilizer and how this might best be changed. The fertilizer experiments have been legitimized with what has been seen as an unproductive stalemate between market-oriented opponents of any subsidies for fertilizer use and those demanding direct and large-scale financial subsidies by the state. Researchers developed a simple model of biases in farmer decision-making inspired by insights from cognitive psychology and behavioral economics. Going to the store, buying fertilizer, and perhaps deciding what type of fertilizer to use and how much to buy, it is argued in the characteristic jargon of the discipline, involve a “utility cost”. Even

if this cost is small, as long as farmers discount future utility even farmers who plan to use fertilizer will postpone the decision to the latest moment possible, if they expect they will purchase the fertilizer later. However, farmers who end up being impatient in the last period in which buying is possible will then fail to invest in fertilizer altogether (Duflo, Kremer, and Robinson 2011, 2356ff). Based on these assumptions a policy intervention program was designed and evaluated with the help of a field experiment. At the end this is what Duflo and her co-researchers suggest: Laissez-faire policies are represented as being inferior to small, time-limited subsidies as long as there is a "sufficient proportion of procrastinating farmers" (ibid., 2382). At the same time small, time-limited subsidies delivered by NGOs and implementers are regarded as being preferable to larger scale interventions made by the state. However, the advantages here are not straightforward from the results of the experiment. At the end of the day, the "third way" between state and market is recommended on the grounds that cautious interventions provide the best of all worlds. They help the behaviorally deficient poor without distortive incentives for those who "do not suffer from these problems" (ibid., 2387).

NEO-INDIVIDUALISM AND NEOLIBERALISM

How to make sense of the preceding analysis? In this section we do this in three steps, connecting with Foucauldian debates about the conduct of conduct under neoliberalism.

A challenge to orthodox economics?

The identity of behavioral economics as a serious challenger to mainstream economics rests on the argument that there are systematic biases built into people's choices. As a positive intellectual project (that is, describing and predicting what people actually do) behavioral economics has indeed played an important role in breaking the spell of the rationality hypothesis. However, such an argument neglects the fact that the translation of its key insights into policy

interventions transformed behaviorism into a normative endeavor. After all, what behavioral engineering and soft paternalism are all about is to change how people think and act. And, as the equation of the dual process model with two types of people aptly illustrates, the ultimate benchmark remains largely unchanged. On the one hand are econs, experts who are (almost) rational, on the other hand we have humans, ordinary people who rely on emotions, and rules of thumb, and are locked in suboptimal outcomes. In so doing, the perfect rationality assumption re-enters the stage through the backdoor. Behavioral economists share the normative view that rational maximization is what people *should* do. The gap between both perspectives is therefore not nearly as wide as we are made to believe. Protagonists of behaviorism in development economics and beyond continue to conceptualize the poor as means-ends-oriented, weakening the assumption that they are all-knowing and perfect calculators only to some extent.

Take the question of buying and using fertilizer. "Non-rational" smallholders (who stubbornly resist to use inorganic fertilizer) are to be transformed into active individuals who rationally calculate their choices (the benefits and costs of buying fertilizer) and – importantly – take full responsibility for the decisions taken (such as the uncertainty that fertilizer use may not have the desired result or even unwanted side-effects). In a context in which smallholders are fully aware what is expected from them, what it means to be reasonable and responsible, refusal to do so is a difficult decision indeed. Displacing the market with the individual market subject as target of policy interventions therefore strengthens the far-reaching normative aspirations of the orthodox economic project. In so doing the emerging new mainstream actually provides a means to stabilize the orthodoxy during turbulent times, translating it into a utopian yardstick to measure concrete economic behavior and as a behavioral norm performing

economic realities. It is this stabilizing interplay between behaviorism and core notions of orthodox economics that we call "neo-individualism".

A rearticulated *homo oeconomicus* and "roll-in neoliberalism"

At the heart of neo-individualism remains the figure of the *homo oeconomicus*, perhaps the element of neoliberalism that best justifies Jamie Peck's (2010) zombie metaphor. Repeatedly declared dead during the past, the principle has proven to be remarkably resilient since its emergence during the time of British empiricism and moral philosophy (Brown 2015, 32; Hargreaves-Heap 2008). It has been Michel Foucault who pointed to a decisive shift associated with the emergence of neoliberal rationalities to govern the conduct of individuals. These were no longer addressed as partners in exchange, but as entrepreneurial subjects. In so doing, the *homo oeconomicus* turned into the "entrepreneur of himself", as Foucault (2008): 226) famously put it. The "neoliberal" *homo oeconomicus* exerts its normalizing force indirectly as a normative benchmark with which to classify behavior across a population as "economic" and "non-economic" (or normal and not normal). In so doing, the idea of economic behavior as optimal allocation of scarce resources to alternative ends turns into a norm that exerts a more subtle force, capable of governing individual conduct indirectly (Newheiser 2016, 6).

Our argument is that the recent emergence of a reformulated behaviorism, and the methodological challenge of experimentalism accompanying it, constitutes a further step in this ongoing transformation. On the one hand, it may be interpreted almost as a step back towards a disciplinary attention to the individual subject. This appears to be particularly marked in the context of rural poverty in the global south where we ultimately observe a more direct interventionist logic that aims at bringing individual behavior in line with a market logic. On the other hand, the encounter of economic behaviorism with cognitive psychology resulted in a

further rearticulation of the notion of economic man or woman. This includes the gradual transformation of subjects in the global north and increasingly also in the global south into human capital under the gaze of socio-technologies such as human resource management (Brown 2015, 32). In the wake of this rearticulation *homo oeconomicus* has undoubtedly become more psychologically complex (Hargreaves-Heap 2008, 3). However, there is more to this: The "new" *homo oeconomicus* no longer pretends to have autonomous sovereignty. Having no agency of her own, she is the relational effect of distributed cognitive and calculative processes. And here the already mentioned market devices play a crucial role. It would be strange indeed to give material objects a more active role ("quasi-objects"), while maintaining the ideal of the modern, self-contained subject (Latour 2003, 44).

Does this mean that the real world is populated by fleeting, boundless subjectivities? The stronger the challenge to the coveted ideal of the autonomous human subject, the stronger the impulse to redraw the line, to reestablish the old order. It is therefore little surprising that the ideal of the rational, sovereign *homo oeconomicus* is kept alive. This "remodernization in the realm of subjectivities" (ibid.) is never fully completed, but an ongoing controversy about how far to adjust the frame performing the autonomous individual agent. Behavioral economics has started to play a key role in these "struggles". From a marketization perspective, therefore, behaviorism and experimentalism have given the "laboratorization of society" a new twist, nudges and randomized experiments intervening in strategic moments to frame possible actions (Callon, Lascoumes, and Barthe 2009, 67). This is connected to a shifting meaning of what might be conceptualized as neoliberal rationality. In so far as new economic knowledge has gradually managed to advance a more "realistic" representation of human nature there must be a different way in which human beings learn "to recognize themselves as [economic] subjects" (Foucault 1983, 208). For those humans found wanting, "conduct of conduct" is in-

creasingly less about "behaving within a more or less open field of possibilities" and increasingly more about management, direction and coercion (ibid., 220-221). This is different to the more radical market-driven neoliberal moment that Jamie Peck and Adam Tickell (2002) have termed "roll-back". But neither is it more of its "roll-out" variant. The rationale of government intervention advanced by behaviorism is not to repair the devastating social effects of marketization with new institutional fixes. It is individual human behavior itself that governmental interventions address and shape. Interventions aim at the minds of people, they become intimate by breaking non-rational practices and mental models and committing them to "useful" behavior. Given that governments at large are not asked to formulate long-term policies, but to design evidence-based interventions that tackle individuals, one might wonder whether we are not witnessing the emergence of an additional neoliberal moment of "rolling-in".

Let us clarify that we do not conceptualize these moments as periods with all-encompassing reach following each other in linear fashion. Rather, they may be seen as particular solutions to the dilemmas confronting neoliberalism: as panacea to all social ills markets are superior to any other institution, but are feeble and in constant need of attention at the same time; the state is a distanced bystander yet expected to intervene actively and repressively; and humans should choose freely but cannot be trusted to do so without some form of disciplining and coercion. These overflows are only stabilized temporarily and give rise to diverse arrangements in different geographical and historical contexts. In concrete settings behavioral and experimental knowledge may therefore combine with more radical market thinking, with potentially more progressive ideas about a social economy, or indeed more traditional state intervention. This is ultimately an empirical question.

The subjects of markets in development

We think that the "markets in development" paradigm is a good example for "roll-in neoliberalism". The recipients of the behavioral and experimental medicine are imagined as some kind of incomplete subjects, weak "humans" in need of support. And help is provided in two steps: First, in diagnosing systematic deviations from perfect rationality, behavioral economics shifts the site of policy intervention from the institutional setting (market) to the individual human being (market subject). Second, these anomalies are framed as an exclusively technical problem that is amendable to interventions framed in a logic of behavioral engineering. The poor smallholders at the center of "markets in development" are imagined as "capital to themselves", human capital waiting to be extracted with the seemingly benevolent help of behavioral engineers.

This is by no means to claim that poor farmers and smallholders in countries such as Kenya or Peru readily accept the entrepreneurial ways of being and the corresponding identities forced upon them. The script of behavioral programing is not inscribed on docile peasant bodies, passively performing the subjectivities it is naming. There is still a need for more systematic empirical investigation, but there is evidence that behavioral engineers encounter resistance. In a fascinating study of micro insurance projects, for instance, Leigh Johnson, Brenda Wandera and Rupsha Banerjee (2015) show how those interventions regularly fail to generate the take up rates envisaged by very optimistic experts. And sometimes the apparently overtly human poor unceremoniously refuse to settle in the "two systems-two types of people" world mapped out by the experts. This refers to the practice of side-selling, that is, the short-term decision to sell produce to some other party than the one stipulated in the contracts binding them to certain value chains. Recent research in Tanzania, Ghana and Peru illustrates that the poor can never make it right, development practitioners and corporate decision-makers com-

plaining about unreliable and disloyal "side-sellers" – the wrong kind of entrepreneurial behavior it seems (Herrigel 2015; Niebuhr 2016). Finally, there are the many instances between immediate adoption and outright resistance that James Scott has termed "calculated conformity" (Scott 1985). Smallholders, for instance, creatively and skillfully appropriate the newest development fads to fit their own interests (e.g. M4P – markets for the poor, value chain development; Herrigel 2015).

This is a reminder that individuals become subjects in ongoing struggles between "external" inscriptions and a kind of conscience or self-knowledge of oneself. These are struggles that do not sit easily with the representations informing the programs of behavioral change, not only in the global south. At the practical level of concrete interventions, development practitioners regularly rationalize these struggles in familiar ways: as further indication for the deficiencies of the poor, for the recalcitrance of those who have been selected as being in need of help, and of course as legitimization for doubling the effort to bring them on the right track. In this vein, the behavioral and experimental turn in development stands for a typical reaction when (economic) science is confronted with unexpected or unwelcome results, that is, when reality refuses to follow the model: Adapt the (northern) model and its hypotheses only as far as is necessary to change stubborn (southern) realities. And here there is a further advantage for economists in the wild. They do not have to bother with complex things such as "culture" or history: Behavioral and experimental interventions decontextualize and render technical what are in fact highly contested processes, shot through with social differences and asymmetric power relations.

This is not to say that development practitioners are always agnostic about these contradictions. The 2015 WDR, for instance, devotes a full chapter to the insight that development

practitioners may eventually be as "human" as those subject to their interventions. The proposed antidote against own imperfections is to "engage in more systematic efforts to understand the mindsets of those they are trying to help". Once more, help comes from the non-humans. The experts "should 'eat their own dog food'" (World Bank 2015, 190). They appear to be nothing without their technologies, program templates and nudges. Given that these are devices that only they can master, practitioners are reassured of their expert status. This is another instance of attempted remodernization, of saying something and doing quite the opposite.

Concluding remarks

Economic behaviorism has made an impressive career during the last decades, at first moving from a marginal position at the crossroads of psychology and economics into the economic mainstream and more recently transforming into a powerful policy script that has profoundly rearticulated what may be called neoliberal marketization. We regard the current moment as a particular conjuncture that is characterized by a readjusted assemblage of economic knowledge (e.g. about the market, about the economic subject, about the role of the state), social technologies (e.g. experiments, design of choice architectures, evidence-based policies) and material devices (e.g. concrete nudges, game sheets, evaluation metrics). Our additional emphasis on the market devices and other non-humans at work in making roll-in neoliberalism possible illustrates what may be gained when approaching these changes from a marketization perspective. Calculating subjects are conceptualized as emerging in a topological space performed by a distributed collective of human bodies, discourses, and material devices. This is also important from a critical, political point of view. The old economic orthodoxy is certainly far from being dead. But we should not confuse powerful attempts to re-naturalize economics and economy both in academia and in the public media for a proof that little has changed,

that "economic man" in his traditional cloth is a natural fact and that speculations about hybrid collectives, quasi-subjects and socio-technological *agencements* are all but academic pipe dreams. At least if one does not want to unwittingly play into the hands of the market-radical mainstream and if one intends to maintain some sort of methodological approach capable of problematizing the processes of re-modernization at play around us.

Endnotes

[1] Empirically, we illustrate our argument with the results of a large-scale analysis of a text corpus containing about 100 documents. These have been sampled from two interrelated sources. On the one hand, there are policy documents from multinational organizations and from national donor agencies that provide frameworks for market-based policies against poverty in rural settings. On the other hand we analyzed project material from a range of sources (e.g. World Bank Policy Research Working Papers, Abdul Latif Jameel Poverty Action Lab). This search generated documents that were authored by a heterogeneous set of authors, including representatives of implementing NGOs, the academy, donors and multinational organizations.

[2] Experimental economics emerged during the 1950s as a combination of the experimental method used in psychology and new advances in economic theory, above all the rise of game theory that defined new standards for mathematical rigor in economics. Behavioral economists similarly adopted experiments in dialogue with insights from psychological research as key methodological instruments to test the extent to which actual behavior deviates from the perfect rationality assumption. This reinvigorated the experimental tradition in economics that was equally sidelined when economics established itself as a strictly non-empirical, deductive discipline in the course of the 1950s and 1960s. Although one should not overlook the differences, for instance with a view to the exact role of experiments in policy interventions (e.g.

they may be used to evaluate a policy measure or to change behavior directly) it is justified in the light of this entangled history to speak of a broader intellectual project that emerges as a serious challenger to standard economic theory (see Guala 2008).

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